Remarks

Claims 1-20 are pending in the application. Claims 1-16 are rejected, and claims 17-20 are withdrawn from consideration. By this paper, claim 5 is amended, claims 17-20 are canceled, and claims 21-24 are added. Based on the following, consideration of the amended and new claims, and reconsideration of the remaining claims, are requested.

Claim Rejections—35 U.S.C. § 103

The Examiner rejected claims 1-8, 11 and 14-16 under 35 U.S.C. § 103(a) as being unpatentable over U.S. Patent Application Publication No. 2002/0019687 (Suzuki et al.). The Examiner states that "Suzuki et al. teach a method for operating a hybrid vehicle with an engine (1) and an electric motor (2) and including a plurality of conditions which cause the engine (1) to be stopped or placed into a stopped stand-by condition....." The Examiner notes that Suzuki et al. does not explicitly teach the generation of flags to indicate conditions associated with engine off or standby conditions, but the Examiner does state that "in view of Suzuki teaching that an envisioned controller device may be a general purpose computer (see paragraph 0051, lines 14-19), it would have been obvious to one of ordinary skill in the art at the time of the invention to use flags in a program for the purpose of maintaining an instantaneous array of all conditions present in the vehicle which would require the change in status or maintenance of an existing status." Applicants respectfully disagree with the Examiner's position regarding Suzuki et al., and present the following remarks for consideration.

First, Applicants disagree that based on Suzuki et al. it would have been obvious to use flags in a program in the manner stated by the Examiner. Even if, however, the use of flags to indicate certain conditions would have been obvious, Suzuki et al. still does not teach or even suggest all of the claim limitations of any of the rejected claims. For example, claim 1 of the present application recites a method for determining when to stop an engine in a vehicle that includes the steps of generating first, second and third flags, and "stopping the

engine when at least one of the flags indicates an engine stop condition." Determining the flags includes "comparing at least one engine condition to a corresponding predetermined engine condition... comparing at least one vehicle system controller condition to a corresponding predetermined vehicle system controller condition... [and] comparing at least one second power source condition to a corresponding predetermined second power source condition." In contrast to the method of claim 1, which specifically recites the use of an engine condition, a vehicle system controller condition, and a second power source condition in a determination of when to stop the engine, Suzuki et al. limits its engine stop/start decisions to a determination of "whether the startability of the engine 1 has been degraded (step S1)." (Paragraph 0042.) Suzuki et al. goes on to say that this determination is "made based on whether the battery 15 has a prescribed charging amount or less, whether a system for starting the engine 1 has failed, and the like." (Paragraph 0042.) The two specifically enumerated conditions described in Suzuki et al.—i.e., the battery state of charge and the condition of a system for starting the engine—do not teach or suggest all of the claim limitations of claim 1 of the present application. Moreover, Applicants submit that the catchall language "and the like" is too broad to teach or suggest any of the claim limitations of claim 1 of the present application.

A similar analysis applies to claim 11 of the present application, which recites a method for enabling engine standby that includes making a determination regarding at least one engine condition, at least one vehicle system controller condition, and at least one second power source condition. The determinations include whether the particular condition matches a corresponding predetermined condition, and the method further includes "enabling engine standby when at least one of the determined conditions matches a corresponding predetermined condition." As discussed above, Suzuki et al. describes making a determination regarding a state of charge of the battery and whether a system for starting the engine has failed. Again, Applicants submit that the language "and the like" used in Suzuki et al. is too broad to teach or even suggest limitations found in claim 11 of the present application.

Claim 1 is the base claim for claims 2-7, and claim 11 is the base claim for claims 14-16. Each of these dependent claims contains all of the limitations of its respective base claim, as well as additional limitations which further distinguish it from the cited reference. Therefore, based on the foregoing, Applicants maintain that each of claims 1-8, 11 and 14-16 contain limitations which are neither taught nor suggested by Suzuki et al., and respectfully submit that with regard to these claims, the requirements for a *prima facie* case of obviousness have not been met.

The Examiner rejected claims 9, 10, 12 and 13 under 35 U.S.C. § 103(a) as being unpatentable over Suzuki et al. in view of U.S. Patent No. 6,176,807 (Oba et al.). The Examiner states that it would have been obvious "to include a motor and transmission condition determination step as suggested by Oba et al. with the vehicle control arrangement of Suzuki et al., for the purpose of preventing the use of the engine in operating regions where the engine efficiency is degraded." At the outset, Applicants reiterate the limited teachings of Suzuki et al., which teaches, and suggests, no more than the use of a battery state of charge and an examination of an engine starting system to determine the "startability" of an engine. Oba et al. teaches the use of criteria such as a determination of whether the motor is running and the gear ratio of a transmission to determine if a clutch should be released and an engine stopped. This combination does not teach or suggest all of the claim limitations in any of claims 9, 10, 12 or 13. Indeed, the combination does not teach or suggest all of the claim limitations of either of the base claims of these dependent claims—i.e., claims 1 and 11—and therefore does not render obvious these dependent claims.

New Claims

By this paper, non-elected claims 17-20 are canceled, and new claims 21-24 are added. Each of these new claims is directed to the elected invention. Applicants submit that none of the new claims are anticipated or rendered obvious by the cited references. For example, claim 21 depends from claim 5, which by this paper has been amended to more particularly point out and distinctly claim the subject matter of the invention. Claim 5 depends

directly from claim 1, and therefore, contains all of the limitations of claim 1, as well as additional limitations which further distinguish it from the cited references. In addition to the limitations recited in claims 1 and 5, claim 21 further recites "comparing the maximum vehicle speed since engine start to a predetermined minimum vehicle speed; and comparing the engine runtime to a predetermined runtime...." As described in the specification, such criteria help to ensure that the vehicle engine will not be started and stopped with too great a frequency. New claim 22 includes similar limitations, and depends directly from claim 11, which as discussed above, is believed to be patentable. New claim 23 is an independent claim that recites a method for enabling engine standby in a vehicle, including the steps of "starting an engine standby enable routine," and enabling engine standby when at least one determined condition matches a corresponding predetermined condition. The determined conditions include at least one engine condition and at least one vehicle system controller condition. The at least one vehicle system controller condition includes at least one vehicle condition chosen from a set of vehicle conditions, which includes a current vehicle speed, a maximum vehicle speed since engine start, and an engine runtime. New claim 24, which depends directly from new claim 23, contains limitations similar to those found in claims 21 and 22. Each of the new claims 21-24 are fully supported by the specification as originally filed, and each of the new claims is believed to be allowable.

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Respectfully submitted,

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